

**DRAFT SCREENING SITE INVESTIGATION
FOR THE
NORTH AMERICAN SMELTING SITE
TIOGA STREET AND EDGEMONT STREET
PHILADELPHIA, PENNSYLVANIA
ECKEL SITE NUMBER 64**

Prepared for

U.S. Environmental Protection Agency Region 3
Hazardous Site Cleanup Division
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1.0 INTRODUCTION

Under Remedial Action Contract (RAC) No. 68-S7-3002, Work Assignment No. 048-PAPA-03ZZ, U.S. Environmental Protection Agency (EPA) Region 3 tasked Tetra Tech, Inc. (Tt), to assist EPA Region 3 in the assessment of properties suspected to have been former lead smelter foundries. Tt subcontracted completion of this work assignment to Tetra Tech EM Inc. (Tetra Tech).

Former lead smelter sites nationwide were identified in an April 2001 article published in the American Journal of Public Health by Eckel, and others (Eckel study) (Reference [Ref.] 1). The majority of these lead smelters operated prior to 1964 and closed before the current environmental regulations were instituted. As part of the Eckel study, soil samples were collected from several of the identified former lead smelter properties. Results from the analysis of these soil samples indicated that concentrations of lead exceeded EPA's recommended screening level for lead in residential soils. The results of the Eckel study indicate that the air disposition of lead into soils from the former smelter operations may present an ongoing public health concern due to exposure of residential populations, especially children, located in the vicinity of these former lead smelters, to soils containing elevated concentrations of lead (Refs. 1, 2, and 3).

The Eckel study identified 77 properties that may have been formerly used as lead smelters within EPA Region 3 (Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, and West Virginia). EPA Region 3 is currently investigating these 77 properties. The objective of EPA's investigation of these properties is to (1) determine the potential for lead-contaminated soil to be present at the former lead smelter site or nearby properties (2) identify any populations that may be at risk to exposure to this soil, and (3) determine if soil sampling is warranted at any of these sites or nearby properties.

The following activities were completed as part of the initial screening investigation of each of these former lead smelter sites: (1) verify the former lead smelter address listed in the Eckel

study through historical Sanborn fire insurance maps, tax parcel information, and/or contacting local agencies, (2) determine if the site is listed in EPA's Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database, (3) determine through census information and existing maps the number of schools, daycare centers or recreational parks that exist near the former lead smelter site, (4) determine the population residing within a 4-mile radius of the site, (5) conduct a windshield reconnaissance of the site and surrounding area to document the current land use, identify any exposed soil and verify the existence of any schools, daycare centers or parks in the immediate area, and (6) review all information acquired to determine if the collection and analysis of soil samples is warranted at the site or at any nearby property.

This report summarizes the findings of the tasks outlined above for the former lead smelter known as the North American Smelting site located at the intersection of Tioga Street and Edgemont Street, Philadelphia, Pennsylvania, 19134. Each former smelter property was given a number in Eckel's study. The Eckel study number for this site is 64 (Ref. 1).

2.0 SITE LOCATION

The former North American Smelting facility was located at the intersection of Tioga Street and Edgemont Street, Philadelphia, Pennsylvania, 19134. The geographic coordinates of the former North American Smelting facility are 39.987883 north latitude and 75.095472 west longitude on the Philadelphia, Pennsylvania-New Jersey Quadrangle, 7.5 minute series, United States Geological Survey topographic map (see Appendix A, Figure 1). The site is not currently listed in EPA's CERCLIS database (Ref. 4). An aerial photograph of the vicinity of the former lead smelter site has been included in Appendix A, Figure 2. This aerial photograph reveals the exposed soils and any identified areas of potential concern such as schools, daycare centers, or parks located within a half-mile radius of the site.

3.0 SITE OBSERVATIONS

On December 16, 2005, Tetra Tech completed a non-sampling windshield reconnaissance of the North American Smelting site and surrounding area. A photographic record of the current site conditions is included in Appendix B. Figure 3, shows the current layout of the site and surrounding area as observed during Tetra Tech's site reconnaissance. The following observations were recorded:

- The former lead smelter property currently consists of a paved parking lot that is enclosed by a fence. The site is located in a mixed residential/commercial area of Philadelphia.
- Northeast of the subject property are newly constructed residential homes with small grass yards. West of the subject property are residential areas with no yards. South of the subject property is commercial development. On Edgemont Street, east and southeast of the subject property, are residential dwellings with the exception of the large 3 story factory type building occupied as a warehouse and distributor. Other industrial and commercial buildings are located along Tioga Street.
- Exposed soils were identified in the nearby vicinity of the site. Residential properties to the northeast of the site have associated areas of exposed soils.
- The Delaware River, a tributary to the Delaware Bay, is located approximately three-quarters of a mile to the southeast of the site.
- No schools, parks, or daycare facilities were identified in the immediate vicinity of the site.

4.0 POTENTIAL TARGETS

Potential targets identified that may be exposed to lead-contaminated soils remaining in the vicinity of the former North American Smelting site include the nearby residential population. The population within a 4-mile radius of the site is summarized in the table below (Ref. 5).

Population within a Four-mile Radius of the Site

Distance Ring (miles)	Population (number of persons)
0.0 to 0.25	2,887
0.25 to 0.5	3,092
0.5 to 1.0	19,814
1.0 to 2.0	88,708
2.0 to 3.0	161,797
3.0 to 4.0	248,427

Source: U.S. Department of Commerce. Landview V Environmental Mapping Software based on the Bureau of Census 2000 Population Data. December 7, 2005.

No schools, parks, or daycare facilities were identified in the immediate vicinity of the site. Three schools have been identified within one-half mile of the site, including the Martin School, Saint Alberts School, and the Nativity School. All three schools are located between approximately one-quarter and one-half mile to the south and west of the site. Saint Peters Cemetery is located approximately three blocks to the north of the former lead smelter. Allegheny Square Park and multiple unidentified baseball fields are located within one-half mile to the west and south of the site.

5.0 FINDINGS AND RECOMMENDATIONS

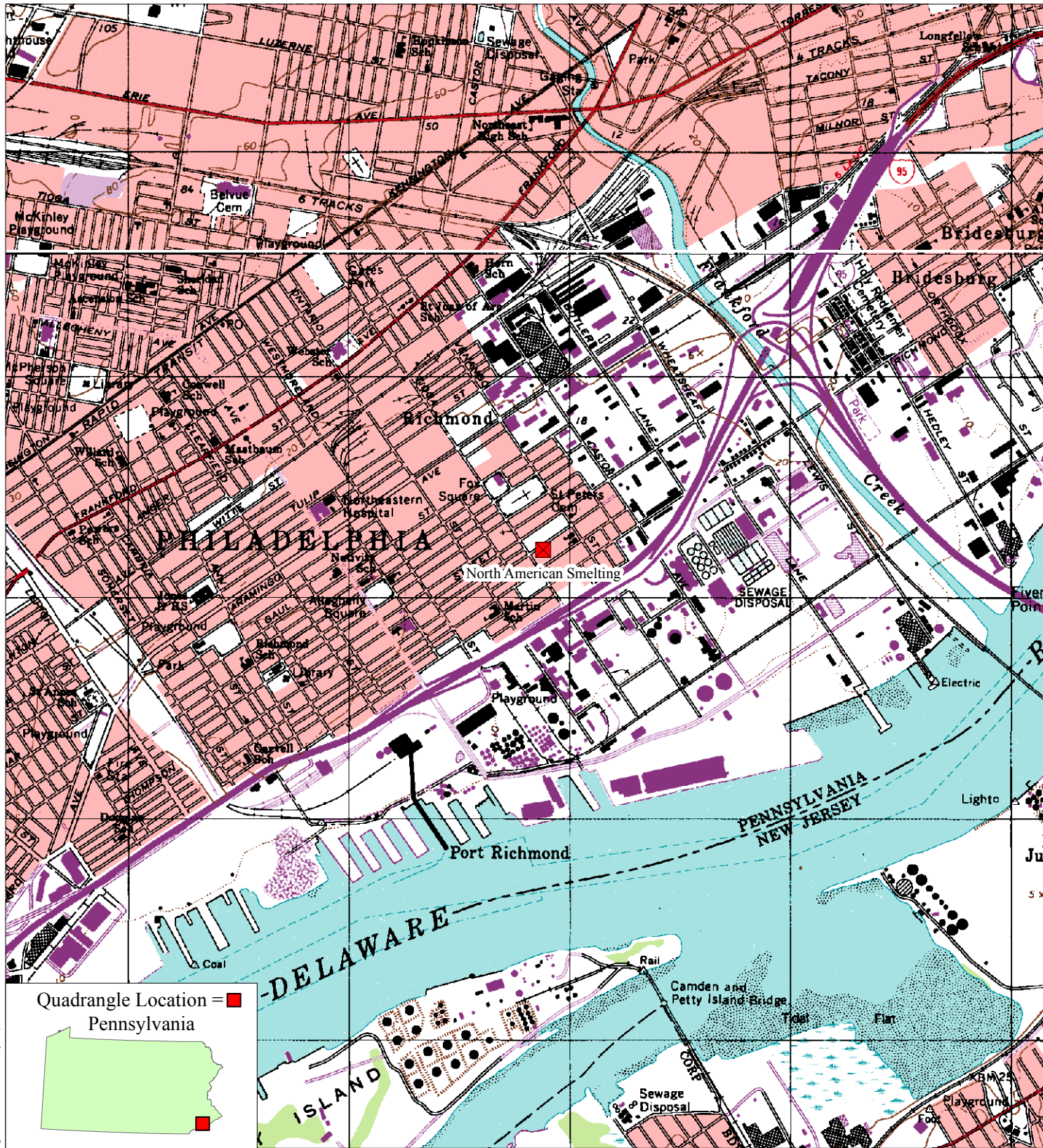
The property is located in a primarily residential area of Philadelphia. Exposed soils were observed in areas directly surrounding the site. To determine if there is a threat to the residential population located in the vicinity of the former lead smelter site, it is recommended that soil samples be collected from exposed soils and analyzed for lead levels.

REFERENCES

1. Eckel, W.P., Rabinowitz, M.B., Foster, G.D. American Journal of Public Health. "Discovering Unrecognized Lead-Smelting Sites by Historical Methods". April 2001.
2. Pennsylvania Department of Health. Suspected Former Lead Smelter Sites: A Potential Risk Factor for Childhood Lead Poisoning. August 2004.
3. U.S. Environmental Protection Agency (EPA). Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities. OSWER Directive 9355.4-12. July 14, 1994.
4. U.S. EPA. Comprehensive Environmental Response, Compensation, and Liability Act Information System (CERCLIS) database. On-Line Address: <http://cfpub.epa.gov/supercpad/cursites/srchsites.cfm>
5. U.S. Census Bureau. State and County Quick Facts. Accessed On-Line on December 7, 2005. On-Line Address: quickfacts.census.gov/qfd/states/42.html.





Appendix A

Figures





Legend

-  Approximate Site Location
-  School
-  0.5-Mile Radius
-  Parks

0 400 800
Feet

Scale in Feet

North American Smelting
Tioga Street and Edgemont Street
Philadelphia, Pennsylvania
Eckel Site No. 64

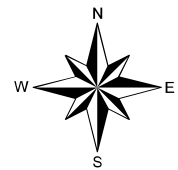
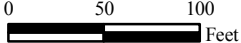
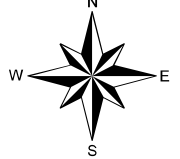




Figure 2
Aerial Photograph



Source: Modified from USGS, 2002, and ESRI, 2005.



 <p>Scale in Feet</p>	<p>North American Smelting Tioga Street and Edgemont Street Philadelphia, Pennsylvania Eckel Site No. 64</p>	
	<p>Figure 3 Site Layout Map</p> <p>Source: Modified from the City of Philadelphia 1996, 2000, and 2003.</p>	

Appendix B
Photographic Documentation



Photographic Documentation

Site Name: North American Smelting – Eckel Number 64
Location: Tioga Street and Edgemont Street, Philadelphia, Pennsylvania

Prepared by: Tetra Tech EM Inc.
Photographer: [REDACTED]

Photograph No. 1

Photograph Date:
September 6, 2005

Description: From the south side of the 2700 block of Tioga Street facing north showing the newly built residential properties and parking lot which encompasses the entire north side of the street.



Photograph No. 2

Photograph Date:
September 6, 2005

Description: From the intersection of Tioga and Edgemont Sts. facing northwest.





Photographic Documentation

Site Name: North American Smelting – Eckel Number 64
Location: Tioga Street and Edgemont Street, Philadelphia, Pennsylvania

Prepared by: Tetra Tech EM Inc.
Photographer: [REDACTED]

Photograph No. 3

Photograph Date:
September 6, 2005

Description: From the northwest corner of Tioga Street and Edgemont Street facing south showing a three-story building on the southeast corner along with occupied row homes below on Edgemont Street.

